

Hearings on adoption in Wisconsin of amended ICC model codes

The Department of Commerce will hold public hearings on proposed rules relating to construction and fire prevention for public buildings and places of employment, including commercial buildings and structures, and multifamily dwellings.

✓ Tuesday, January 16, 2001, commencing at 9:30 a.m. at the Thompson Commerce Center, Room 3B, 201 West Washington Avenue, Madison, Wisconsin.

✓ Thursday, January 18, 2001, commencing at 10 a.m. at the Turtleback Golf and Conference Center, 1985 18½ Street (on West Allen Street), Rice Lake, Wisconsin.

✓ Tuesday, January 23, 2001, commencing at 10 a.m. at the Green Bay State Office Building, Room 152A, 200 North Jefferson Street, Green Bay, Wisconsin.

✓ Thursday, January 25, 2001, commencing at 10 a.m. at the Waukesha County Technical College, Room B0201, 800 West Main Street, Pewaukee, Wisconsin.

Interested persons are invited to appear at the hearings and present comments on the proposed rules. Persons making oral presentations are requested to submit their comments in writing. Persons submitting comments will not receive individual responses. The hearing record on this proposed rulemaking will remain open until February

continued on page 2

Following in-depth study of the International Building Code, International Energy Conservation Code, International Mechanical Code, International Fuel Gas Code, and International Fire Code.

Moving forward with modern building codes

The Wisconsin Department of Commerce has proposed adoption in Wisconsin of five model codes developed through the International Code Council (ICC), to form the base of the state's commercial building and fire codes. The proposal includes adoption of the International Building Code, International Energy Conservation Code, International Mechanical Code, International Fuel Gas Code, and International Fire Code. Hearings on the proposal will be in January 2001, with possible adoption in mid-2001, and a projected delayed effective date (to provide for education) of July 1, 2002.

The proposal to enhance building safety, fire fighter safety, and construction processes was made after Commerce conducted more than three years of in-depth study of the ICC model codes in relation to current state codes. **Eight advisory councils which participated in Wisconsin's evaluation of the codes, with representatives of more than 40 organizations, all recommended ICC code adoption, with modifications to serve Wisconsin statutory, geographic, and special circumstances. Many statewide professional organizations have recommended adoption.**

See "Moving Forward," page 3

Wisconsin Building Codes Report

Safety and Buildings Division,
Department of Commerce

December 2000



How to obtain copies of the proposed rules, analysis, and the ICC codes

An **analysis** of the proposed rules and the **draft rules** themselves are available on the S&B WebSite, www.commerce.state.wi.us/SB/SB-HomePage. Paper copies also may be obtained without cost from Roberta Ward, Program Development Bureau, PO Box 2689, Madison, Wisconsin 53701, rward@commerce.state.wi.us, telephone 608-266-8741, or 608-264-8777 (TTY). Copies will be available at the public hearings.

Hearing Announcement

continued from page 1

9, 2001, to permit submittal of written comments from persons who are unable to attend a hearing or who wish to supplement testimony offered at a hearing. Written comments should be submitted to Sam Rockweiler, Department of Commerce, Program Development Bureau, P.O. Box 2689, Madison, WI 53701-2689.

These hearings are held in accessible facilities. If you have special needs or circumstances that may make communication or accessibility difficult at the hearing, please call 608-266-8741 or TTY at 608-264-8777 at least 10 days prior to the hearing date. Accommodations such as interpreters, English translators, or materials in audio tape format will, to the fullest extent possible, be made available upon request by a person with a disability.

The **ICC codes** can be purchased from the following organizations:

- ♦ Building Officials and Code Administrators International, Inc., 4051 West Flossmoor Road, Country Club Hills, IL 60478-5695, 708-799-2300, web page www.bocai.org;
- ♦ International Conference of Building Officials, 5360 Workman Mill Road, Whittier, CA, 90601-2298, 562-699-0541, web page www.icbo.org; and
- ♦ Southern Building Code Congress, Inc., 900 Montclair Road, Birmingham, AL, 35213-1206, 205-591-1853, web page www.sbcci.org.

Direct comments, suggestions for articles, etc., to Todd Taylor. Fax 608-264-8795. Telephone 608-267-3606. ttaylor@commerce.state.wi.us

S&B WebSite <http://www.commerce.state.wi.us/SB/SB-HomePage.html>

Green Bay Office
2331 San Luis Pl #150
Green Bay WI 54304
920-492-5601

Hayward Office
10541N Ranch Rd
Hayward WI 54843
715-634-4870

La Crosse Office
4003 North Kinney
Coulee Road
La Crosse WI 54603
608-785-9334

Safety and Buildings Division
Full-Service Offices

Madison Office
201 W Washington Ave
PO 2658
Madison WI 53701
608-266-3151

Shawano Office
1340 E Green Bay St #300
Shawano WI 54166
715-524-3626

Waukesha Office
401 Pilot Ct # C
Waukesha WI 53188
262-548-8600

Moving Forward!

continued from page 1

The national ICC code development effort was organized in 1994 as a cooperative effort among three previously competitive national code groups. Adoption of ICC models would align Wisconsin's requirements for construction and fire prevention with the latest integrated national and international standards. Cooperating with the most up-to-date safety and efficiency progress would leverage Wisconsin's resources in terms of code development, training, and support. Commercial building safety will improve without delay.

Economically, having Wisconsin's requirements consistent with ICC standards makes it easier for designers, manufacturers, and suppliers in Wisconsin to compete nationally and internationally. On the other hand, being knowledgeable of ICC codes also will allow people of other states to provide products and services in Wisconsin, thereby also increasing competitiveness in the Badger State. Overall, construction processes will improve.

Improving safety and construction processes now is part of continuing to progress into the future. Wisconsin residents will be involved in ongoing development of model codes and consideration of refining the state codes. Code changes will be made in the future as techniques and products improve even more.

S&B had proposed a comparison of the International Fire Code, the National Fire Protection Association fire code, and Wisconsin's current fire code provisions. However, NFPA announced in May of 2000 that it intended to produce a suite of codes available for adoption in late-2003. Some representatives of the fire service from Wisconsin and from other states advocate not adopting the ICC models in order to wait for the yet-undeveloped NFPA suite. Considering time for analysis, consideration, hearings, and new code training, the NFPA code would not be in place in Wisconsin until 2006.

The division decided to not complete the NFPA code comparison, partially because S&B was reluctant to now adopt the NFPA fire code, which is

** Adopting the ICC-based code proposals in Wisconsin will improve public and firefighter safety and increase the efficiency of construction processes.

** An in-depth study on use of ICC codes in Wisconsin resulted in recommendations to adopt five model codes - to move with the forefront of cooperative, integrated building code development. Advisory councils and professional organizations support the adoption effort.

** Now is the time for adoption of the model codes as the basis for Wisconsin's commercial building and fire codes. Work has been done to put the best rules into place; delay would serve no purpose and would cause extra rework of current out-of-date codes.

not coordinated with the ICC codes, and partially because of the NFPA announced ongoing rewrite of its fire code to become part of a code suite. The NFPA codes can be considered in the future.

The issue of delay was discussed with the two major oversight advisory councils, the Commercial Building Code Council and the Multifamily Dwelling Code Council, and with the Fire Safety Code Council. All three voted to advance the IFC adoption to hearings.

While the Commerce proposal would apply updated rules to maintenance and hazardous materials handling in current buildings, the department's policy has been one of reluctance to make any statewide **construction** codes retroactive. Advocates for delaying improvement of the Wisconsin codes have said they want numerous new **construction** requirements to apply retroactively to many commercial buildings in the state, which is what NFPA's fire code does.

It is of note that Wisconsin's commercial building code and fire prevention codes are "minimum" codes. Local municipalities may choose, and have chosen, to put more provisions into place. If they so desire, local authorities can adopt NFPA codes in addition to the minimum state codes.

Important points about the draft rule proposal ...

1. **The ICC codes that are proposed for adoption in this rule package are:** the *International Building Code*; the *International Energy Conservation Code*; the *International Mechanical Code*; the *International Fuel Gas Code*; and the *International Fire Code*.

2. **This proposed adoption includes modifications to the ICC codes.** These modifications were developed during the past three years through a comparative analysis with Wisconsin's current requirements, and in consultation with advisory councils. **The proposed rules are supported by these councils:**

- Commercial Building Code Council
- Multifamily Dwelling Code Council
- Fire Safety Code Council
- Means of Egress and Accessibility Code Council
- Elevator Code Council
- Structural Review Code Council
- Energy Conservation Code Council
- Heating, Ventilating, and Air Conditioning Code Council

A listing of the members and the corresponding representation for the councils is included the proposal's analysis (See page two for info on how to obtain the analysis.)

3. This rule package proposes to adopt the above ICC codes and corresponding modifications as **restructured chapters of the Wisconsin Administrative Code:**

Comm 61 – Administration and Enforcement; including adoption of the IBC, IECC, IMC, and IFGC.

Comm 62 – Buildings and Structures, which includes Wisconsin modifications of the IBC

Comm 63 – Energy Conservation; which includes Wisconsin modifications of the IECC

Comm 64 – Heating, Ventilating and Air Conditioning; which includes Wisconsin modifications of the IMC

Comm 65 – Fuel Gas Appliances; which includes Wisconsin modifications of the IFGC

Comm 66 – Fire Prevention; which includes adoption and Wisconsin modifications of the IFC

4. This rule package includes a proposal to **subsume the current Uniform Multifamily Dwelling Code**, Comm 66, into the Commercial Building Code. This proposal is intended to discontinue repeating administrative requirements of the Commercial Code in a Multifamily Code.

5. These chapters include affirmation that the Commerce Department will **retain its authority to interpret all of the incorporated requirements**, including those from the ICC codes, and to issue variances to those requirements.

6. This rule package **does not include** rule changes for updating several other Comm code chapters that currently reference or relate to chapters Comm 51 to 64, such as Comm 2, 3, 5, 18, 34, 41, 45, 70, 75-79, 81-87, and 90. A separate, subsequent rule package with a simultaneous effective date is expected to contain this updating.

IBC/ICC adoption update, December 2000

by J.B. Smith, S&B Commercial Buildings Program Manager, 608-2660-0251, jsmith@commerce.state.wi.us

I want to take this opportunity to provide you with a little history, as well as to update you regarding the model codes adoption process.

Although Wisconsin has had a state-wide building code since 1914, and has "borrowed" from model codes over the years, the actual use or adoption of a model code or codes was always avoided. Over the past 30 years, the model code adoption has been considered numerous times. In the early 1970's, code users were surveyed: the overwhelming advice was to stay with our own state code. When addressed again in the mid 1980's, there was a fairly even split in the recommendation. When support for use of a model code became more prominent in the early 1990's, discussion turned to which of the three major national model building codes to use. Building Officials and Code Administrators'? International Conference of Building Officials'? Southern Building Code Congress'?

When the three groups "got it together" in 1994 to form the International Code Council and develop true national model codes, it did not take long for S&B to revisit the issue. By 1996, the thought of a suite of integrated national model codes generated serious consideration among S&B staff, advisors, and Wisconsin's building industry.

By early 1997 the division had set general goals, had begun preliminary reviews of the IBC drafts, and created an advisory Commercial Building Code Council (CBCC).

Also in 1997, S&B organized specialty councils that would give advice to the two major advisory code development oversight councils - the CBCC and the Multifamily Dwelling Code Council. See page four for a list of the councils (The two oversight councils and the six specialty councils have all recommended S&B go forward with adoption of Wisconsin versions of a number of the model ICC codes!)

By the fall of 1997, S&B staff were into in-depth reviews of the IBC subjects and beginning comparisons to Wisconsin's codes. In February 1998 we conducted a survey of the approximately 500 attendees at the annual UW Code Refresher. The result showed overwhelming support of moving toward the model ICC codes.

Early in the process, the CBCC determined that a complimentary "Fire Code" was needed. The Wisconsin commercial building code had always included many of the fire prevention and protection provisions that the model code organizations normally included exclusively in their fire codes. Consideration proceeded of the integrated International Fire Code and of the National Fire Protection Association's fire code. NFPA announced it intended to develop a suite of building codes, including a rewrite of its fire code. S&B decided the NFPA code was not coordinated with the ICC codes of the adoption package, and that consideration of the NFPA fire code would not be possible now because of the rewrite. Three advisory councils, the Commercial Building Code Council, the Multifamily Dwelling Code Council, and the Fire

Safety Code Council, voted to not delay moving the ICC-based code package to hearings.

We have been able to stay reasonably close to our original timelines and public hearing will

be held in January 2001. We hope to be able to have the package adopted and in print by late summer of 2001. As noted in past articles, there will be an extended delay between the adoption and the effective date to allow designers time to get projects off the drawing boards and to gain a sure knowledge of the new codes. An effective date is planned for July 2002.

To help be assured we are on the right track concerning getting a modern set of codes in place and in use, and to gain the thoughts of our partners on the enforcement side, S&B put together an "Implementation Task Group." We want advice as to the important elements that will help us all with the transition to our new codes.

"The two oversight councils and the six specialty councils have all recommended S&B go forward with adoption of Wisconsin versions of a number of the model ICC codes!"

****The Feb. 20-21 2001 annual UW Refresher will concentrate on ICC speakers and breakouts. Call 800-462-0876 for information.**

****The March 2001 Commercial Building Inspectors Update will also stress ICC code training. There will be more info on the Update in a future WBCR**

Hearings to consider International Fire Code

by John Lippitt, Fire Safety Program Manager, 608-266-1036, jlippitt@commerce.state.wi.us

I'm pleased we have the opportunity to use the International Fire Code as the base for our state fire code. The IFC offers extensive guidance for property owners and fire code officials to ensure proper protection is provided based on the type and use of the building or property. One of the best features of the IFC is that a fire inspector can use the code, with proposed Wisconsin amendments, to evaluate any type or size of existing occupancy, making a determination about compliance with the code.

The State of Wisconsin has maintained a minimum state fire prevention code since 1918. Over the course of the past 82 years, the state has taken advantage of other codes to enhance the requirements of our state building and fire codes, for example the BOCA National Fire Prevention Code and the BOCA National Building Code. There is nothing new

Comm 66 would replace the current Comm 14, Fire Prevention Code. See page four for more info on the new numbering of the codes.

in the state using parts of national model codes.

It is important to understand how the code will be applied

to existing buildings. Comm 66 will not be applied to the design and construction of existing buildings. As in the past, the construction of existing buildings is regulated by the state building code in effect at the time of construction. Comm 66, however, will be applied to the **use** of existing buildings. This means the isolation, storage, handling, use, process or operation of any commodity, substance or material that is regulated by the code, must be in compliance

with the new fire code. The application of this provision will provide for immediate benefits for improving fire safety in existing buildings in Wisconsin.

In the proposed Comm 66, eight chapters of the IFC are omitted which cover topics currently covered by other state codes administered by S&B. The division is planning to update the current state codes regarding the topics covered by these eight IFC chapters, with the effective date coordinated with the remainder of the IFC.

One of the most important differences between our current state codes and the ICC model codes is the way the model codes are interrelated and dependant upon each other to cover a design issue, or an application or use. The International Building Code, the International Mechanical Code, and IFC work closely together to ensure a safe constructed environment.

There are many fire hazards addressed in the draft Comm 66 with the IFC which have not been covered in the current Comm 14. The IFC provides guidance for the building owner and the fire code official to ensure that fire hazards are identified and appropriate fire prevention procedures, and fire protection features, are provided based upon the specific hazard. The IFC is structured to manage the risks associated with fire and explosions within buildings, structures and upon the premises. The application of the IFC as proposed in the rules will provide for safe operations and processes in both new and existing properties.

For you to view, ICC model codes are in the S&B offices

Copies of the ICC codes (provided by Building Officials and Code Administrators International) will be available for viewing in each of the six S&B full-service offices. See page 2 for locations.

Notes about the IEC, IMC, and IFGC by Berni Mattsson, S&B Energy Efficiency and HVAC Program Manager, 608-266-2725, bmattsson@commerce.state.wi.us

The *International Energy Conservation Code* contains energy conservation requirements relating to the design of building envelopes for adequate thermal resistance and low air leakage, and the design and selection of mechanical, electrical, service water-heating and illumination systems and equipment, which will enable the effective use of energy in new and altered building construction.

With the IECC, the Wisconsin energy code will offer more options for compliance. As you review the proposed code changes, keep in mind that you have to comply with only one set of requirements.

Options range from simplified prescriptive formats requiring no calculation to computer modeling. The intent is that any of the options chosen will provide the same levels of energy conservation.

The **International Mechanical Code** contains regulations for the design, installation, maintenance, alteration and inspection of mechanical systems that are installed and used to provide control of environmental conditions and related processes within buildings. The rules cover equipment installation and location, ventilation, exhaust systems, duct systems, combustion air, chimneys and vents, standards for the design and construction of appliances, fireplaces and solid fuel-burning equipment, and solar systems.

The installation of fuel gas distribution piping and equipment, fuel gas-fired appliances and fuel gas-fired appliance venting systems is not addressed by the IMC, but rather by the **International Fuel Gas Code**.

The IMC also contains rules for boilers, water heaters and pressure vessels, refrigeration, hydronic piping and, fuel oil piping and storage. Because these issues are addressed by other Commerce codes that are not being changed at this time, these IMC chapters will be replaced by references to the Commerce codes.

Under the ICC suite of codes, all of the subject areas that are covered under the current Comm 64 are not all located in the IMC.

Some fire safety requirements that may impact HVAC system design and installation are found in the IBC (Comm 62). Requirements for equipment enclosure are in IBC chapter 3, fire rated resistive damper placement is in IBC chapter 7, and air movement in rated corridors is in IBC chapter 10. Requirements for natural ventilation systems are found in IBC chapter 12. Requirements for installation of fuel gas distribution piping and equipment, fuel gas - fired appliances, and combustion air and venting for fuel gas -fired appliances, are in the IFGC (Comm 65).

All IECC chapters are not applicable to all building types. Chapters 4, 5, and 6 apply to low rise residential buildings (≤ 3 Stories). Chapters 7 and 8 apply to high rise residential (≥ 4 Stories) and commercial buildings. Only low rise residential buildings with $\leq 25\%$ window area can use the most simplified prescriptive requirements of chapter 6. Only commercial and high rise residential buildings with $\leq 50\%$ window area can use the most simplified prescriptive requirements of chapter 8.

-IECC chapter 6, chapter 5, and chapter 8 have options for a prescriptive approach. The simplest of the approaches, it allows builders or designers to select from various combinations of energy conservation measures based on "climate zone" location. Each combination or "package" specifies insulation levels, glazing areas, and glazing U-values (thermal performance). By locating the correct climate zone and looking up the appropriate table of packages, a person can ensure the project meets one of the packages listed for that zone.

-IECC chapter 5 and chapter 7 have options for a trade-off between components of the thermal envelope. This approach enables builders to vary insulation levels in the ceiling, wall, floor, basement wall, slab-edge and crawl space; glazing and door areas; and glazing and door U-values as long as a calculated total "UA-value" for the project is not exceeded.

- IECC chapter 4, chapter 7 and chapter 8 have options for an annual total energy use calculation. This approach allows tradeoffs between any or all of a building's energy consuming systems via approved calculation tools such as computer modeling. As long as the proposed design has an estimated annual energy use or cost that is lower than a building designed to meet the code requirements for each system, the proposed design is allowed.

- S&B also intends to continue to allow the use of the COMcheck computer program for commercial buildings and to allow the use of MECcheck for low-rise residential buildings. Both programs are available at no cost from the federal Department of Energy at http://www.eren.doe.gov/buildings/codes_standards/buildings/. These computer programs may need to be modified to reflect changes made to the IECC as it is adopted in Wisconsin.

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Safety and Buildings Division
201 W Washington Ave
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